

## CLAIMS:

1. An amplifier bias circuit connectable to an amplifier device, comprising:  
- at least one first sensor device for sensing a first amplifier characteristic and  
for providing, at a first sensor output, a bias signal related to the first amplifier characteristic;  
- at least one second sensor device for sensing a second amplifier characteristic

5 and for providing, at a second sensor output, a bias signal related to the second amplifier  
characteristic;

which first sensor output and second sensor output are each connectable to at  
least one bias input of said amplifier device.

10 2. An amplifier bias circuit as claimed in claim 1, wherein the first sensor device  
is for sensing a lifetime dependent characteristic of the amplifier device.

3. An amplifier bias circuit as claimed in claims 1 wherein the second sensor  
device is for sensing a temperature dependent characteristic of the amplifier device.

15 4. An amplifier bias circuit according to claim 1, wherein the first sensor device  
and the second sensor device are communicatively connected to each other and are able to  
provide each other with a signal related to the sensed characteristic.

20 5. An amplifier bias circuit as claimed in claim 1, wherein the second sensor  
device and the first sensor device are connected to each other as a feedback circuit, such that  
the second sensor output is connected to a first sensor input of the first sensor device and the  
first sensor output is connected to a second sensor input of the second sensor device.

25 6. An amplifier bias circuit according to claim 1, wherein the first sensor output  
and the second sensor output are connected to an RF-decoupling device, which RF-  
decoupling device is connectable to the bias input.

7. An amplifier bias circuit as claimed in claim 6, wherein the RF-decoupling device comprises a low-pass filter.

8. An amplifier bias circuit as claimed in claim 7, wherein the low-pass filter 5 comprises at least two resistor devices in series and the low-pass filter further comprises a capacitor device connecting a node between the at least two resistor devices to ground.

9. An amplifier bias circuit according to claim 1, wherein the first sensor device 10 comprises a first sensor transistor with at least one voltage input and at least two current outputs, and which voltage input is connected to at least one of the current outputs such that in use the voltage difference between the input and the output connected thereto is small.

10. An amplifier bias circuit according to claim 1, wherein the second sensor device comprises:

15 a second sensor transistor thermally connectable to the amplifier device, which second sensor transistor has

- at least one voltage input and
- at least two current outputs,

wherein in use a voltage difference between the voltage input and at least one 20 of the current outputs exists.

11. An amplifier bias circuit as claimed in claim 9 or 10, wherein the first sensor transistor is connectable to the amplifier device to form a current mirror circuit.

25 12. An amplifier bias circuit according to claim 1, wherein at least one of the sensors devices comprises a field effect transistor.

13. An amplifier bias circuit as claimed in claims 1, wherein at least one of the sensor devices comprises an insulated gate field effect transistor.

30 14. An amplifier bias circuit as claimed in claim 13, wherein at least one of the insulated gate field effect transistors is a laterally diffused metal oxide semiconductor field effect transistor.

15. An amplifier bias circuit according to claim 1, wherein the amplifier bias circuit and the amplifier device are implemented on a single integrated circuit.

16. An amplifier bias circuit as claimed in claim 1, wherein at least one of the 5 sensor devices has at least one characteristic which corresponds to at least one of said amplifier characteristics.

17. A method for biasing an amplifier device comprising the steps of:  
providing first means for sensing a change of a first characteristic of said 10 amplifier device;  
providing a first bias signal related to said change;  
providing second means for sensing a change of a second characteristic of the amplifier device;  
providing a second bias signal related to the second characteristic of the 15 amplifier device; and  
presenting the bias signals to at least one bias input of the amplifier device.

18. An integrated circuit comprising an amplifier device which is connected to at least one amplifier bias circuit, the amplifier bias circuit comprising:  
20 - at least one first sensor device for sensing a first amplifier characteristic and for providing at a first sensor output a bias signal related to the first amplifier characteristic;  
- at least one second sensor device for sensing a second amplifier characteristic and for providing at a second sensor output a bias signal related to the second amplifier characteristic;  
25 which first sensor output and second sensor output are each connectable to at least one bias input of said amplifier device .

19. An integrated circuit as claimed in claim 18 wherein the integrated circuit is a 30 single crystal integrated circuit.

20. Apparatus comprising an amplifier bias circuit connectable to an amplifier device, the amplifier bias circuit comprising:  
- at least one first sensor device for sensing a first amplifier characteristic and for providing at a first sensor output a bias signal related to the first amplifier characteristic;

at least one second sensor device for sensing a second amplifier characteristic and for providing at a second sensor output a bias signal related to the second amplifier characteristic;

which first sensor output and second sensor output are each connectable to at least one bias input of said amplifier device.

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